



66 -- Tabletip X-Ray Microtomography System

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General Information

Document Type: Amendment to Combined Synopsis/Solicitation
Solicitation Number: N00173-06-R-JK03
Posted Date: Jun 22, 2006
Original Response Date: Jun 12, 2006
Current Response Date: Jul 07, 2006
Original Archive Date: Jun 22, 2007
Current Archive Date: Jun 22, 2007
Classification Code: 66 -- Instruments & laboratory equipment
Naics Code: 423490 -- Other Professional Equipment and Supplies Merchant Wholesalers

Contracting Office Address

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Description

The purpose of this amendment is to reestablish a new closing date and to revise the specifications.

- 1.) The hour and date specified for receipt of offers is extended to July 7, 2006.
- 2.) The specifications previously provided are deleted in their entirety and replaced with the

following:

Specifications for a Table-top X-ray Microtomography Unit (Revised 6/22/06)

The x-ray computed microtomography unit, hereafter called the XCMT unit, must be able to scan an object and output a computer file, in a standard format, which contains three dimensional absorption contrast information concerning the object's internal microstructure.

The following minimum requirements are necessary.

- 1.) Materials: Scannable objects may be made from metals, plastics, ceramics, glasses, organic materials, geologic materials, or combinations thereof.
- 2.) Maximum Scannable Object Size: must be 38 mm or greater.
- 3.) X-ray Source: air-cooled, sealed micro-focus x-ray tube, 100kiloVolts (kV)
Acceleration voltage, > 10,000 hours lifetime.
- 4.) X-ray Spot Size: < 5 microns at 4W, 20-100kV, 0-250 micro-Amps.
- 5.) Object Magnification: XCMT will be equipped with adjustable source to camera distance which provides selectable magnifications
- 6.) X-ray Detector: minimum 1024X1024 lens coupled camera.
- 7.) X-ray Filtering: capability of having up to three or more interchangeable x-ray filters for beam-hardening compensation and multi-energy scanning.
- 8.) Effective Pixel Size at Max. Magnification: minimum 1.6 microns or smaller.
- 9.) Low Contract Resolution: minimum 5 microns.
- 10.) Computer: minimum dual processor workstation with hard drive storage, DVD writer, monitor, mouse, keyboard, capable of image capture, with all required software necessary for volume reconstruction and volume rendering.
- 11.) Reconstruction Algorithms: Both back-projection for fan-beam, and cone-beam algorithms must be provided. Correction for beam hardening must be available. Network volume reconstruction must be available.
- 12.) Radiation Safety: <1 micro Sievert/hour or better at any point on the instrument surface.
- 13.) Electrical Utilities: 100-130 V AC, 4 A.
- 14.) Mechanical Testing: Unit must contain compression, tension and torsion stages for testing samples in situ.

- 15.) Software interface and controller for controlling mechanical test apparatus.

Point of Contact

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Place of Performance

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